

Date: Wed, 19 May 93 22:36:17 PDT  
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
Precedence: Bulk  
Subject: Info-Hams Digest V93 #609  
To: Info-Hams

Info-Hams Digest                      Wed, 19 May 93                      Volume 93 : Issue    609

Today's Topics:

                    2 Meters and Airlines  
            3rd Party Vendors of HT batteries (2 msgs)  
            Anyone going to Ham com 93 in Dallas?  
                    ARRL Bulletin 55 ARLB055  
            Daily Solar Geophysical Data Broadcast for 19 May  
Don't get ripped off by a G5RV: OPINION TO THE CONTRARY.  
Maxcom fraud (was Re: Don't get ripped off by a G5RV)  
                    MININEC  
                    Quad vs Yagi  
                    Radio Shack 70cm HT?  
            RFI from ZyXEL modem, please advise  
            What is circular polarization?

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

-----

Date: 19 May 93 19:02:43 CDT  
From: usc!howland.reston.ans.net!darwin.sura.net!ukma!netnews.louisville.edu!  
wkuvx1!scottcr@network.UCSD.EDU  
Subject: 2 Meters and Airlines  
To: info-hams@ucsd.edu

In article <9305191754.AA00648@ucsd.edu>, ST1860@SIUCVMB.SIU.EDU (Gary R. Smith  
KE9MI) writes:

> Hi-

>        I am getting ready to take a rather long trip by air and I was wondering i  
> f anybody knew what the regulations were for operating a 2 meter rig aboard an

> commercial airplane.  
>  
> I have heard 2 conflicting reports...First, I have heard it down right il  
> legal to do so. The other was it's okay if the pilot says it alright...Does an  
> ybody know the right awnser?? I would appreciate it....  
>  
>  
> Thanx....Gary KE9MI  
> Internet: ST1860@SIUCVMB.SIU.EDU  
> BITNET: ST1860@siucvmb.bitnet

As an amateur and a pilot, let me reinforce: Yes, it is illegal, unless  
specifically authorized by the pilot.

--  
SCOTTCR@WKUVX1.BITNET aka Chris Scott- C/E Public Radio- Western KY U  
Telco: (502) 745-3834 Hm & Fax: (502) 781-1232

-----  
Date: Thu, 20 May 1993 00:15:57 GMT  
From: usc!howland.reston.ans.net!darwin.sura.net!news-feed-1.peachnet.edu!concert!  
samba!usenet@network.UCSD.EDU  
Subject: 3rd Party Vendors of HT batteries  
To: info-hams@ucsd.edu

In article <127348@netnews.upenn.edu> yee@mipg.upenn> ...deleted stuff...  
>  
>I would like to extend this question. What about recommendations for  
>3rd party vendors of battery packs in general?  
>  
>

Someone gave me a Virginia number 800-334-0342 as a battery source for  
cellular phone batteries. I haven't called, but maybe they may be such  
a vendor.

>-- >411 Blockley Hall | Conway Yee, N2JWQ  
>418 Service Drive | yee@ming.mipg.upenn.edu (preferred)  
>Philadelphia, PA 19104 | cy5@cunixa.cc.columbia.edu (forwarded to above)  
>(215) 662-6780 |

--  
The opinions expressed are not necessarily those of the University of  
North Carolina at Chapel Hill, the Campus Office for Information

Technology, or the Experimental Bulletin Board Service.  
internet: laUNCHpad.unc.edu or 152.2.22.80

-----  
Date: Thu, 20 May 1993 02:23:38 GMT  
From: news.cerf.net!pagesat!ukma!rsg1.er.usgs.gov!resdgs1.er.usgs.gov!  
tbodoh@network.UCSD.EDU  
Subject: 3rd Party Vendors of HT batteries  
To: info-hams@ucsd.edu

In article <127348@netnews.upenn.edu>, yee@mipg.upenn.edu (Conway Yee) writes:

|>  
|> >My internal pack seems to have a dead cell, does  
|> >anyone have any recommendations of 3rd party vendors  
|> >for internal 3sat 7.2V packs?  
|>  
|> I would like to extend this question. What about recommendations for  
|> 3rd party vendors of battery packs in general?  
|>  
|>  
|> --  
|> 411 Blockley Hall | Conway Yee, N2JWQ  
|> 418 Service Drive | yee@ming.mipg.upenn.edu (preferred)  
|> Philadelphia, PA 19104 | cy5@cunixa.cc.columbia.edu (forwarded to above)  
|> (215) 662-6780 |

--  
Look for ads in 73 and CQ. One possible vendor is EH Yost.

As a followup question, are NiMH batteries available for HT's yet? I've  
heard that they're supposed to eventually replace Nicads due to longer  
life. Anyone know when or where these might become available or viable?

++++++  
+ Tom Bodoh - Sr. systems software engineer  
+  
+ USGS/EROS Data Center, Sioux Falls, SD, USA 57198 (605) 594-6830 +  
+ Internet; bodoh@dgg.cr.usgs.gov (152.61.192.66)  
+  
+ "Welcome back my friends to the show that never ends!" EL&P  
+  
++++++

-----  
Date: 20 May 93 00:52:18 GMT  
From: sun-barr!news2me.EBay.Sun.COM!cronkite.Central.Sun.COM!texsun!wb9rxw!kf5iw!

cmptrc!carter@decwrl.dec.com  
Subject: Anyone going to Ham com 93 in Dallas?  
To: info-hams@ucsd.edu

>>I was just wondering if anyone is going to Ham-Com in Dallas this year?  
>  
>I am...I'll be, among other places, in the Texas VHF-FM Society forum (you  
>know...that bunch of rotten no-goodnik frequency coordinators...)

Me, too! In fact, I'll be net control op for the talk-in frequency for part  
of that Friday night. Undoubtedly some other time slots, too. Look for us  
on 147.14 + as you start coming in! The net'll run from mid-Thursday 'til  
sometime Sunday.

Cheerio!

--

Carter R. Bennett, Jr. - Scientist | "Oh my God! I \_AM\_ a nerd!!!"  
carter@scilab.lonestar.org - home | - C. Bennett, Sept 25, 1992, after  
carter@cmptrc.lonestar.org - work | realizing he had been talking about  
KI5SR | "market availability of preconfigured Toll-House cookies."

-----  
Date: 19 May 1993 23:29:37 GMT  
From: sdd.hp.com!col.hp.com!csn!news.sinet.slb.com!news.San-Jose.ate.slb.com!  
jones@network.UCSD.EDU  
Subject: ARRL Bulletin 55 ARLB055  
To: info-hams@ucsd.edu

Scott Richard Rosenfeld (ham@wam.umd.edu) wrote:  
: >So, out of curiosity, how many organizations qualify? That's, what, 5000  
: >members? I assume there's more than one organization with that many members,  
: >so this probably isn't a sneaky way of making the ARRL the only special  
: >callsign administrator.  
:  
: Actually, you could include:  
:  
: W5YI-VEC (at LEAST 13000 VE's registered)  
: 10-10 International, with far greater than 5000 in the US  
: QRP ARCI, maybe?  
:  
: And maybe a few others? Actually, one percent is like 6,000 now, but  
: remember that people (like myself, W5YI-VE and ARRL member) can belong  
: to MORE than one organization.  
:  
Hmm... at the rate we're going, it won't be too many years before the  
Arizona Repeater Association will qualify! ;-) (And most of our members  
are in Arizona...)

--

Disclaimer: The opinions expressed above are mine and not those of Schlumberger because they are NOT covered by the patent agreement!

Phone: (602) 345-3638                      Internet: jones@sj.ate.slb.com  
Packet: N7RPQ@K7BUC.AZ.USA.NA            RF: N7RPQ  
Snail: Clark Jones, Schlumberger Technologies, 7855 S. River Pkwy #116, Tempe,  
          AZ 85284-1825

-----  
Date: 20 May 93 05:20:58 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Daily Solar Geophysical Data Broadcast for 19 May  
To: info-hams@ucsd.edu

!!BEGIN!! (1.0) S.T.D. Solar Geophysical Data Broadcast for DAY 139, 05/19/93  
10.7 FLUX=090.9 90-AVG=124            SSN=047            BKI=1243 2231    BAI=010  
BGND-XRAY=A9.5        FLU1=7.1E+05    FLU10=1.3E+04    PKI=2233 2232    PAI=010  
      BOU-DEV=006,015,045,020,017,015,025,005    DEV-AVG=018 NT        SWF=00:000  
      XRAY-MAX= C1.1    @ 0801UT        XRAY-MIN= A7.4    @ 2240UT        XRAY-AVG= B1.3  
NEUTN-MAX= +000%    @ 0000UT        NEUTN-MIN= +000%    @ 0000UT        NEUTN-AVG= +0.0%  
      PCA-MAX= +0.0DB @ 0000UT        PCA-MIN= +0.0DB @ 0000UT        PCA-AVG= +0.0DB  
BOUTF-MAX=55397NT @ 1257UT        BOUTF-MIN=55352NT @ 1909UT        BOUTF-AVG=55381NT  
GOES7-MAX=P:+000NT@ 0000UT        GOES7-MIN=N:-000NT@ 0000UT        G7-AVG=+000,+000,+000  
GOES6-MAX=P:+131NT@ 1558UT        GOES6-MIN=N:-090NT@ 0251UT        G6-AVG=+095,-018,-050  
      FLUXFCST=STD:095,100,100;SESC:095,100,100 BAI/PAI-FCST=010,010,010/010,010,010  
      KFCST=2213 3112 2213 3112    27DAY-AP=017,011    27DAY-KP=4332 3343 3333 1333  
      WARNINGS=  
      ALERTS=  
!!END-DATA!!

NOTE: The Effective Sunspot Number for 18 MAY 93 was 70.0.  
      The Full Kp Indices for 18 MAY 93 are: 2o 2- 1o 2-    2- 2- 3- 3+

-----  
Date: Tue, 18 May 1993 18:29:20 GMT  
From: usc!howland.reston.ans.net!ux1.cso.uiuc.edu!uchinews!att-out!cbfsb!  
      cbnewsf.cb.att.com!5rttrtrt@network.UCSD.EDU  
Subject: Don't get ripped off by a G5RV: OPINION TO THE CONTRARY.  
To: info-hams@ucsd.edu

> >So the G5RV on 20M works no better than a more compact 20M dipole.  
> >The G5RV is not a multiband antenna. Using MININEC, I modeled this antenna  
> >and the SWR is much too high to be using coax feed. The SWR varied between  
> >50:1 to 100:1 on all the other bands! The transmission line loss now becomes  
> >significant. The G5RV is now part antenna and part dummy load. Your 100W

> >station is now QRP. With a 6dB loss, only 6.25W will reach the your antenna;  
> >and a 9 dB loss will only get 3W (97% loss) to the antenna.  
> >73's  
> >Ed W1AAZ  
>Reply:  
> I consistantly get good reports on 75 and 40 meters,  
> (5-9 in Japan on 75m on 5-16-93) I've worked all continents on 20m, It will  
> (etc, etc)  
> and it works just fine.  
>  
> I use 100-140 watts, because I don't need any more.  
>  
> Just MY opinion,  
> Galen Watts, KF0YJ  
>

I agree with Ed, and I believe Mininec. Once the power gets to the radiator of the G5RV it radiates much like any other dipole - its success or failure depends as much on its surroundings as anything else. (trees, proximity to earth, etc.) Actually all dipoles are lousy compared to even the simplest of yagis, so (if the environment allows) don't spend your money on overpriced G5RVs, antenna tuners, ann the like, save it for a real antenna and you'll REALLY be amazed at how your signal will get out.

On the other hand, if you want to get on the air NOW, don't want to spend the \$\$, don't have the space or the considerate neighbors, etc. then some wire antenna is the way to go.

I think the ham world has been fooled into thinking there is something special about the G5RV. There isn't. Todays rigs will not be happy with a 2.8:1 SWR so you need a tuner anyway with the G5RV. If you are going to run with a tuner why not just use a balanced line (cheapest feedline you can buy today) and the longest wire you can put up and I guarantee your signal will be as good (or bad) as the fellow with the G5RV. And you can run it on ANY band to boot.

Rick        KT2Q

-----

Date: Thu, 20 May 1993 00:27:34 GMT

From: swrinde!zaphod.mps.ohio-state.edu!howland.reston.ans.net!darwin.sura.net!  
ukma!eng.ufl.edu!usenet.ufl.edu!mailer.cc.fsu.edu!geomag!zateslo@network.UCSD.EDU  
Subject: Maxcom fraud (was Re: Don't get ripped off by a G5RV)  
To: info-hams@ucsd.edu

In article <1480@arrl.org> dnewkirk@arrl.org (Dave Newkirk) writes:

>In rec.radio.amateur.misc, zateslo@geomag.gly.fsu.edu (Ted Zateslo) writes:  
>

>[deletions]  
>  
>>know what compromises we live with. I \_don't\_ think that article  
>>titles like "G5RV: Ripoff" help the learning process (unless we're  
>>discussing something like the "Maxcom" device with the dummy load  
>>inside).  
>  
>\*QST\*'s review of the Maxcom [spelling?] speaks for itself, but we should  
>be aware that other companies also sell essentially the same technology --  
>a dipole center-loaded by a resistor -- for commercial/military purposes.  
>Pitched with the proper adjectives, such technology is appropriate  
>technology if it's what the situation/contract calls for.  
>  
> [ good points of resistive matcher deleted ]  
>  
>High efficiency is not \*always\* desirable; it generally needs tweaking and  
>fussing, drifts in quality over time, and maybe be unrealistically device-  
>specific. Sometimes you just want to get useful communication with minimal  
>hassle--yes, operation under Part 97 too. There's room for folks of every  
>conceivable "energy level" in hamdom.  
>

Dave, I will allow that there is a place for such lossy matching devices (although automatic tuners may be a better solution in many cases). You may recall, though, that the Maxcom people engaged in such high-jinks as putting a piece of junk surplus printed-circuit board in their box (complete with assorted ICs) so that anyone going so far as to dissect the thing would find all that impressive "digital control circuitry"! What bothered me was the apparent fraud of implying an active matcher. If they had advertised it as a passive, resistive device, I wouldn't have minded. (But I still wouldn't have bought one... :-)

Ted Zateslo, W1X0  
zateslo@geomag.gly.fsu.edu

-----

Date: Wed, 19 May 1993 18:16:23 +0000  
From: usc!howland.reston.ans.net!zaphod.mps.ohio-state.edu!cs.utexas.edu!utnut!  
torn!nott!bnrgate!bnr.co.uk!demon!llondel.demon.co.uk!dave@network.UCSD.EDU  
Subject: MININEC  
To: info-hams@ucsd.edu

In article <1tcp14\$363q@ilx018.intel.com> dbraun@iil.intel.com writes:  
> I ftp'ed myself a copy of MININEC3 (The antenna analysis program) for  
> PCs. Is there a version of this that runs on Unix? The program  
> is written in BASIC (ugh), but I don't know if it was originally in FORTRAN,

> or if someone has since translated it to FORTRAN or some other language.  
>  
> Any pointers to a Unix version, or comments on this program in general,  
> would be greatly appreciated.  
Can't help with a Unix version as such, but I have seen a Fortran source  
before - although I think that might have been the full-blown program and  
therefore probably not free. It was several years ago so who knows what has  
happened since.

Dave

```

#####
@ G4WRW @ GB7WRW.#41.GBR.EU AX25      @   You think *you* have problems?      @
@ dave@llondel.demon.co.uk  Internet @   What do you do if you *are*          @
@ g4w1w@g4w1w.ampr.org      Amprnet  @   a paranoid android??                @
#####

```

-----  
Date: 19 May 93 18:58:41 CDT  
From: usc!howland.reston.ans.net!darwin.sura.net!ukma!netnews.louisville.edu!  
wkuvx1!scottcr@network.UCSD.EDU  
Subject: Quad vs Yagi  
To: info-hams@ucsd.edu

In article <9305191456.AA19576@sparc4.IC0.OLIVETTI.COM>, fax%sparc4@olivetti.COM  
(Marco Fassiotto) writes:

> This is the second post of this message because I'm not sure I did the first  
> right so please excuse me for the wasted bandwidth in case you already  
> received it.  
>  
> Ciao,  
> I'm considering to buy a beam and some days ago I had the chance to take a  
> look to a Cubex Quad (mod. MK5-PTD3 five bands/3 el) antenna tech specs.  
> Actually, since I always thought to buy a yagi, I never took under serious  
> consideration a quad and I was pretty amazed by the on-the-paper performance.  
> Infacts, its gain is rated 11-13 dbISO, F/B 35-40 db and a very low  
> rotating radius (and that's just great for my QTH).  
> I'm wondering if any of you guys out there can give me any advice on this ant  
> or, more generally, whether quads work better than yagis under any condition  
> or there is a trade off like more weakness to the wind, etc. etc.  
>  
> I would also appreciate any comment/suggestion on other makes, or even  
> any kind of ant that can rotate with radius of about 4 meters with a  
> good gain. Height is not a problem since the tower can be almost as high  
> as I want with a minimum of pain.  
>  
> 73, Marco



```

>
> -----
> Marco Fassiotto - IX1IIY          |
> Software Engineer                 |
> P.O. Box 19                      | Packet    : ix1iiy@ik1brm.iv.to.ita.eu
> 10018 Pavone (TO) - ITALY        | INTERNET  : fax@sparc4.ico.olivetti.com
> -----

```

A rule of thumb: all other things being equal, a two element quad will perform about the same as a 3 element yagi... although 35-40 db F/B sounds a little high.

The gain figure sounds about right. Generally, a three element yagi will have about 7 dB gain (over a dipole) mfrs like to use the db(isotropic) as a reference simply because it adds 2.15 dB to their number.

The historic problem with quads is not performance, which is generally good, but keeping them up. Their construction is often such that wind and ice seem to alter their physical appearance.

Chris WB9NEQ

--

SCOTTTCR@WKUVX1.BITNET aka Chris Scott- C/E Public Radio- Western KY U  
Telco: (502) 745-3834 Hm & Fax: (502) 781-1232

```

-----
Date: Thu, 20 May 1993 02:14:18 GMT
From: swrinde!cs.utexas.edu!asuvax!ukma!rsg1.er.usgs.gov!resdgs1.er.usgs.gov!
tbodoh@network.UCSD.EDU
Subject: Radio Shack 70cm HT?
To: info-hams@ucsd.edu

```

In article <930518.224343.5e4.rusnews.w165w@garlic.sbs.com>, system@garlic.sbs.com (Tony Pelliccio) writes:

```

|> William=E.=Newkirk%Pubs%GenAv.Mlb@ns14.cca.CR.rockwell.COM writes:
|>
|> >>I wonder how much longer it'll be before they put out a dual-bander and
|> >>a mobile. Obviously the're realizing that there's some money to be made
|> >>on amateur gear. Can you imagine an HF rig from Radio Shack? Kind of
|> >>scary really.
|> >>Tony
|> >
|> > scary?
|> >

```

|> > don't know why. it would probably be a good thing to get reasonably good  
|> > communications grade equipment out in the public view for them to see. maybe  
|>  
|> The problem is, alot of Radio Shacks will sell to anyone. And that's  
|> what caused the demise of 2m in certain areas of the country.  
|>  
|> Tony  
|> -----  
|>  
|> Tony Pelliccio kd1nr/ae "Usenet is like a herd of performing elephants  
|> \*!\*!\*!\*!\*!\*!\*!\*!\*!\*!\* with diarrhea -- massive, difficult to  
|> system@garlic.sbs.com redirect, awe-inspiring, entertaining, and a  
|> ----- source of mind-boggling amounts of excrement  
|> when you least expect it." --spaf (1992)  
|>

--  
They aren't the only ones - other ham retailers will sell to anyone without  
even asking about a license.

++++++  
+ Tom Bodoh - Sr. systems software engineer  
+  
+ USGS/EROS Data Center, Sioux Falls, SD, USA 57198 (605) 594-6830 +  
+ Internet; bodoh@dgg.cr.usgs.gov (152.61.192.66)  
+  
+ "Welcome back my friends to the show that never ends!" EL&P  
+  
++++++

-----

Date: Thu, 20 May 1993 03:58:43 GMT  
From: usc!howland.reston.ans.net!sol.ctr.columbia.edu!destroyer!cs.ubc.ca!  
newsserver.sfu.ca!sfu.ca!tpang@network.UCSD.EDU  
Subject: RFI from ZyXEL modem, please advise  
To: info-hams@ucsd.edu

ZyXEL U-1496E is a high-speed external modem, which uses a 68000 uP and  
2 DSP chips at 13MHz and 40MHz respectively, inside a plastic case with  
no metal/iron RFI shielding. How does it pass FCC as class B?

I am setting up some 2 way radio system near my computer system, a CB  
handheld getting power from a power-supply (unfortunately, from same wall  
outlet to 2 power bars), and a 2 meter (144MHz) handheld now. I am going  
to set up more on the 2 meter ham band equipment later.

I am experiencing RFI from both my MAG MV-14S, and my ZyXEL modem, but not

from my Amiga 3000 (by simple isolation test), which makes noise on both CB and 2m frequencies on the receivers.

I will be doing some mods to my ZyXEL, so I want to know, for convenience sake, if I could add some metal/iron to shield the ZyXEL plastic case, internally or externally (ugly :). Is it just e-field to be shielded, i.e. Aluminum foil is ok. Or magnetic field? which I need iron/steel to do?

Thanks for any info, e-mail is appreciated, and I'll certainly check this group.

This was posted on comp.dcom.modems a few days ago, for some reason it did not get to the other groups I intended to cross-post to, such as this one. I received several e-mail (thank you :) from hams asking me where my antennas are located, or giving me their RFI results, and some wanted some answers too.

So far, most said if my antennas are away far enough, then it should be much better. One reply said it has nothing to do with cables/wires, and it's coming from the case. (see above). No solutions have been given yet, except turning it off (but I don't want to ).

Thanks in advanced,

Regards,  
David

```
-----
| In real life: David Tse      E-mail: tpang@sfu.ca (Internet)      |
| Snail Mail: P.O. Box 26052, Richmond, B.C., V6Y 1Z3, Canada    |
| Home: Amiga A3000/25/100/6 + AMaxII + ZyXEL U-1496E + HP DeskJet PLUS |
-----
```

```
-----
Date: 19 May 93 08:12:04 EDT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!torn!nott!
bnrgate!bnr.co.uk!pipex!sunic!psinntp!psinntp!arrl.org@network.UCSD.EDU
Subject: What is circular polarization?
To: info-hams@ucsd.edu
```

In rec.radio.amateur.misc, jlbromley@sedona.intel.com (Jim Bromley, W5GYJ) writes:

>>In rec.radio.amateur.misc, I write:

>>>

....The

>>>slots are excited through capacitors from a second pipe inside the  
>>>first that acts as the inner conductor of a giant coaxial cable and  
>>>is fed from the bottom of the antenna. The slots all radiate in  
>>>phase and produce a fair amount of gain, particularly at UHF.

>

>In article <1476@arrl.org> zlau@arrl.org (Zack Lau) responds:  
>  
>>I'm surprised they actually make a coaxial cable. I would have thought  
>>they would just cut slots in a piece of waveguide. Waveguide normally  
>>has the advantage of much lower loss. Page 308 of the 1991 Microwave  
>>update shows how to build one out of WR-75 10 GHz waveguide.  
>  
>Hi Zack,  
>  
>A couple of points:  
>  
> (1) Imagine building this thing out of waveguide for VHF-TV channel 7  
> at 174 MHz. Pretty impressive, huh?

It certainly would be. I thought this was referring to UHF antennas, as someone commented that this antenna had a fair amount of gain for UHF antennas. Then again, maybe my memory has been impaired by too much CW--or was that too much CW flame wars. :-).

>  
> (2) WR-75, etc. is TE<sub>10</sub> guide. Which means that the current maxima  
> are on the narrow sides of the guide. This is where you would  
> want to place the slots for reasonable coupling. But this would

According to the designer of the 10 GHz slot antenna, the coupling was adjusted for optimum performance by the spacing from the centerline of the broad wall. The 13.5 dBi of gain on what appeared to be a professional setup (borrowed from work?) seemed to be pretty decent, so I built one. The design I built has the slots on the broad wall.

> give you a bidirectional pattern in the H-plane, not the desired  
> omni one. I have seen antennas made this way, but they were  
> usually unidirectional, with all the slots on one side of the  
> guide.

The 10 GHz slot has "wings" to even out the pattern with within 1.5 dB of gain ripple. Supposedly, the pattern gets more lumpy if you don't use them, though it isn't said how bad it gets.

>  
> (3) TE and TM guide has this thing called phase delay which varies,  
> sometimes rather a bit near cut-off, with frequency. This might  
> produce a frequency-sensitive beam tilt.

This shouldn't be a problem with amateur antennas, unless you are are going to try using WR-62 on 10.4 GHz. The obvious solution is to use a guide big enough so you aren't close to cut-off.

I wouldn't have guessed that commercial VHF/UHF broadcasters had a need

for frequency agile antennas like the shortwave types. Though it might be useful to avoid Tropo and E-skip problems, I don't see the viewers appreciating this :-)) :-)). Its rare to get both at the same time. Tropo tends to be better on UHF, while E-skip tends to be better in the lower part of the VHF spectrum. For the broadcaster's point of view, substitute worse for better...

I think this is a pretty neat antenna for amateur microwave use, particularly if you can find someone to design it for you :-)). After all, what is there to go wrong with a piece of "pipe" with holes cut into it? Yeah, I suppose you could make the slots in the wrong place, but these could be patched and placed in some sort of radome so nobody sees how ugly it really is.

Zack Lau KH6CP/1

Internet: <a href="mailto:zlau@arrl.org">zlau@arrl.org</a>	"Working" on 24 GHz SSB/CW gear
	Operating Interests: 10 GHz CW/SSB/FM
US Mail: c/o ARRL Lab	80/40/20 CW
225 Main Street	Station capability: QRP, 1.8 MHz to 10 GHz
Newington CT 06111	modes: CW/SSB/FM/packet
	amtor/baudot
Phone (if you really have to): 203-666-1541	

-----

End of Info-Hams Digest V93 #609

\*\*\*\*\*